

1986

4-H 196 Home Building Blocks

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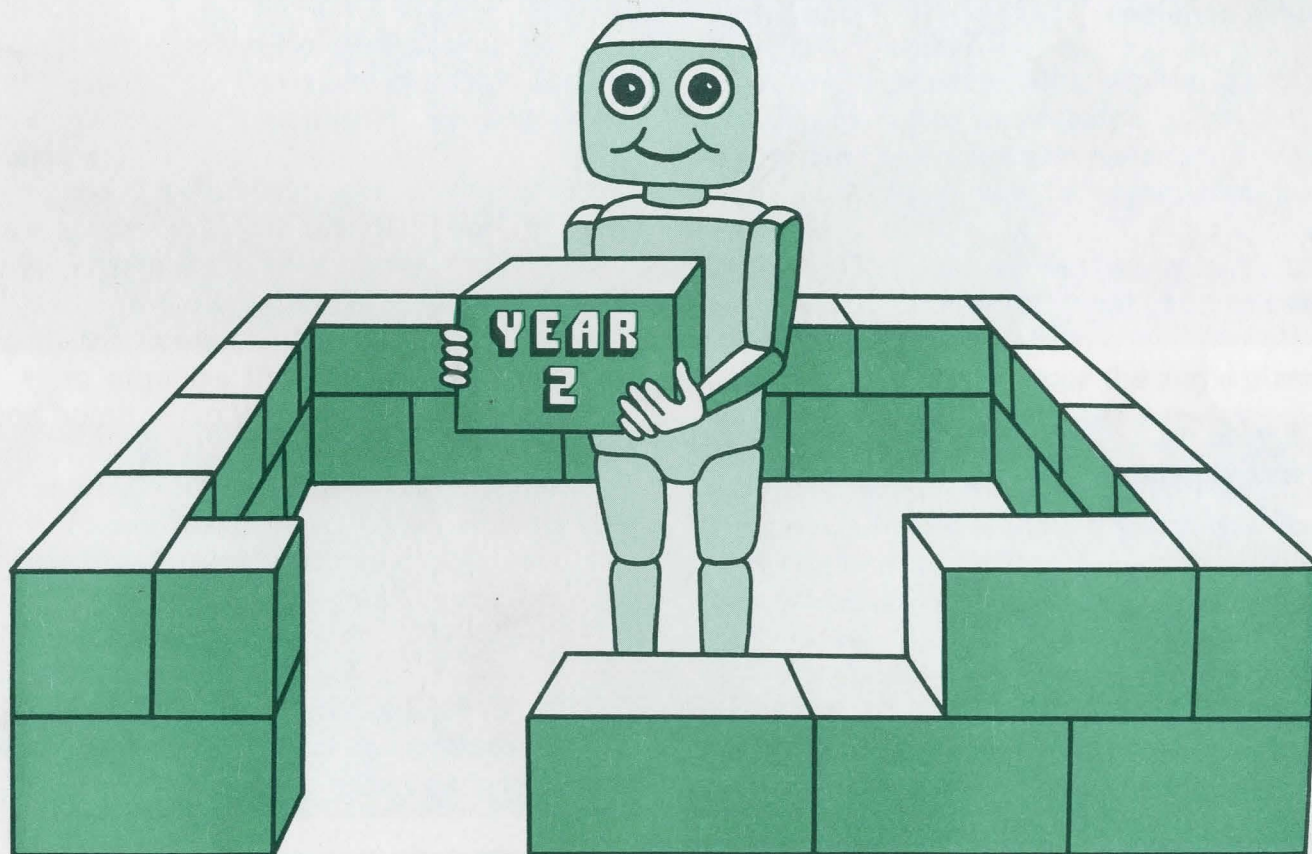
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Nebraska Cooperative Extension Service 4-H 196

HOME BUILDING BLOCKS



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Home Building Blocks — Year Two
Project Planning and Evaluation Sheet

Name 4-H age Year

Years in 4-H Name of club

Signature of leader or parent

Block I — Color My World

Table with 3 columns: I plan to do these activities, From this activity, I learned, Comments. Rows 1-4.

Block II — It's All By Design

Table with 3 columns: I plan to do these activities, From this activity, I learned, Comments. Rows 1-4.

Block III — Home - My Own Place To Live

Table with 3 columns: I plan to do these activities, From this activity, I learned, Comments. Rows 1-4.

Demonstrations or community service activities

Home Environment II
Home Building Blocks
Year Two

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Hi 4-H'er! Welcome back to Home Building Blocks! Are you ready for another year? We are going to learn more about the "blocks" it takes to make a home and keep it going. We will review what you have already learned, and explore new "blocks". Let's go! We hope you enjoy this project, and learn many new things.

Jeanette, Kathy, and Shirley

Home Building Blocks is a three-year project with a separate manual for each year. This manual is for Year Two.

Year Two — What You Will Learn:

- about color value and intensity, and to use your understanding in planning color schemes.
about the design building blocks: form, space, rhythm and balance; and to use them creatively in your home.
to do your share in caring for your room and home.
to organize the storage in your room and home — so you can find everything!

Year Two — What You Will Do:

- create items to make your room and home more attractive.
work with different materials, including paper, fabric, yarn, wood, metal, paint, and glue.
organize your room, and make or buy items to solve your storage problems.
share in keeping your home neat and clean.
share what you learn through fair exhibits, public speaking, demonstrations, and community service activities.

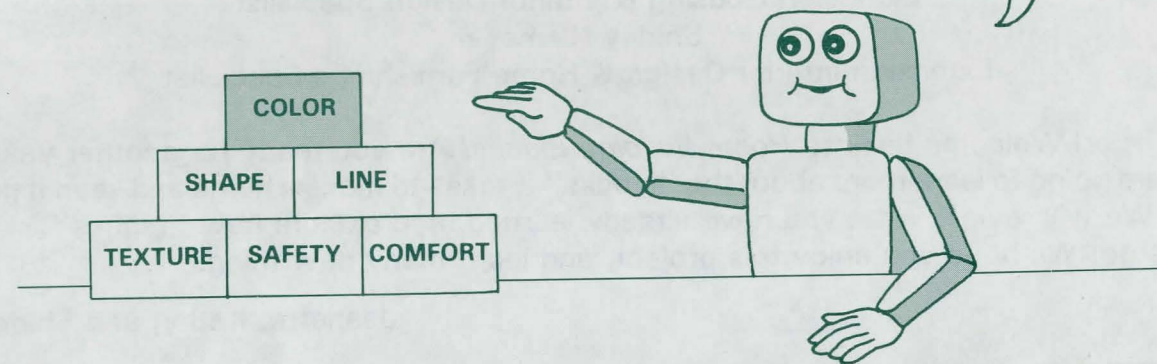
What Will You Do?

Do you remember the Home Building Blocks project has three learning "blocks"? In Year Two, we will again have two units in each block. Each unit will have things to learn and do.
In Year One, you learned to plan activities and evaluate your work. It felt good to set a goal, and then finish it!
In Year Two, we will use the same planning and evaluation sheet. Let's review:
1. Look through all parts of the manual.
2. Decide which activities you want to complete. Choose at least one activity from each block.
3. Write your choices in the "I plan to do" column.
4. As you complete the activities, fill out the "I learned" and "Comments" columns. Tell about: what you learned, cost involved, or how you could improve.
Plan your goals before you start Year Two. Talk to your 4-H leader, parent or guardian. They will have some ideas to help you.

Block I - Color My World

UNIT A. The Language Of Color

To understand color better, it is important to know the language of color, or color terms.



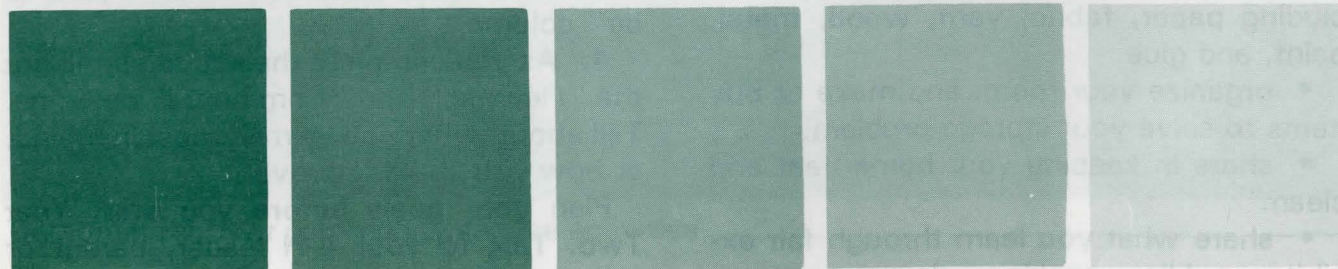
Do You Remember — COLOR?

Hue is the name of a color, such as yellow or blue. **Value** refers to the lightness or darkness of a color. Colors can be changed by adding white to make a **tint** or adding black to make a **shade**.

Light values or tints increase the size of objects. Small rooms appear larger if decorated in light colors or tints. Shades or dark values decrease the size of objects and make rooms appear smaller.

Intensity is the brightness or dullness of a color. Some colors are very bright, others are dull, or in-between. Brilliant red is high in intensity. It attracts the eye and appears close. Dull brick red is low in intensity and appears farther away. Colors are dulled by adding the color directly opposite on the color wheel, or its **complement**.

VALUE SCALE



Here's What You Can Do:

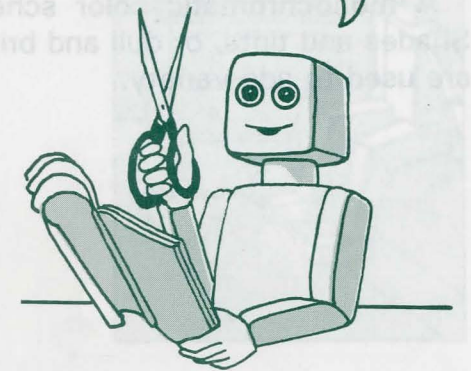
These activities will help you learn about color. Which activities are on your planning sheet?

1. **Value and Intensity** Using crayons, water colors, tempera paints, or color swatches, find three **values** of red. Find three **intensities** of green.

2. **Hue, Value and Intensity** Clip squares of color from magazine pictures, catalogs, paint chips, construction paper, etc. Find a variety of colors. Sort by color family or hue. Name the color families.

Pick one color family. Arrange the squares like a ladder from light to dark, or from bright to dull. What does this show? Lay the squares on white construction paper. Now, use construction paper in a complement of the color family. How does background affect color intensity?

Make sure you ask before you cut up magazines.



COLOR VALUE

Light Red



Medium Red



Dark Red

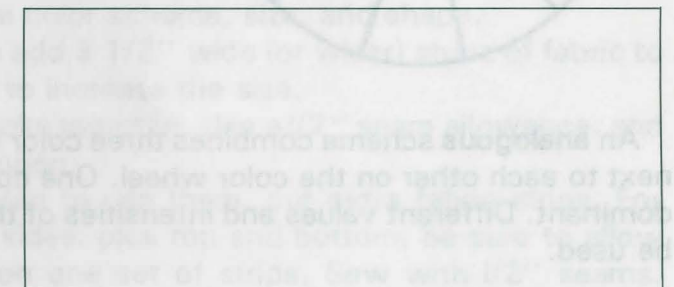


COLOR INTENSITY

Dull Light Green



Bright Green



Dull Dark Green

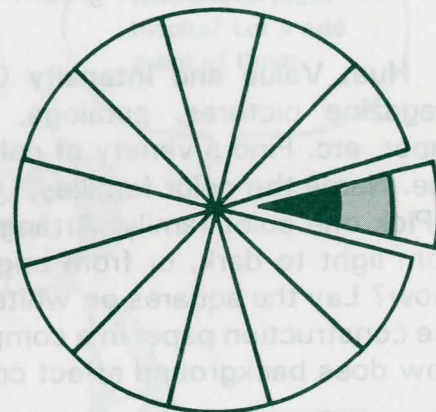


UNIT B. Put It All Together

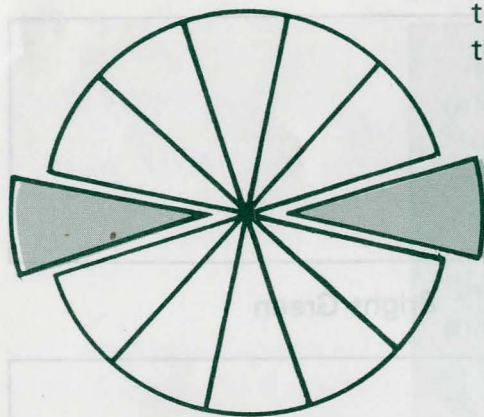
The way colors are used together is a **color scheme**. You can create special effects by the colors, values, and intensities that you choose. Following a color scheme will help you create an attractive room.

A **monochromatic** color scheme uses one color hue. Shades and tints, or dull and bright intensities of the color are used to add variety.

MONOCHROMATIC



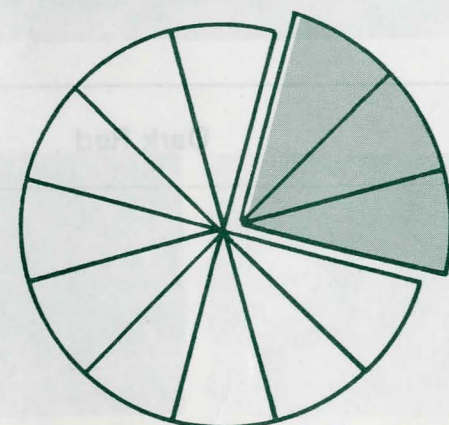
Colors that are opposite on the color wheel make a **complementary** scheme. One color dominates, or is used more than the other. Again, different values or intensities add interest.



COMPLEMENTARY

An **analogous** scheme combines three color hues that are next to each other on the color wheel. One color is usually dominant. Different values and intensities of the colors can be used.

ANALOGOUS

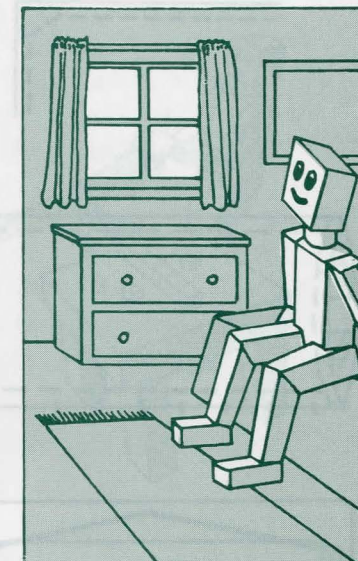


Here's What You Can Do:

Apply what you know about combining colors to your room and items to use in your room! Which activities are on your planning sheet?

1. **Analyze Room** Look at your room. What is the color scheme? Could another color be added to complete the color scheme? What color would it be? How could that color be used? Are there colors that should be removed from the color scheme?

2. **Nine-Patch** Create "nine-patch" block designs using squares of paper, wood, or fabric. Use what you have learned about color schemes to create your designs. Add variety by combining different values and intensities of color. Experiment with various pattern arrangements.



Nine-Patch Quilt Block:

Select a firmly woven, medium weight cotton or cotton blend fabric for best results. Preshrink the fabric.

a. Cut 9 squares of fabric on grain, each the same size, about 3 1/2" square. Arrange the squares into a block design.

b. Sew squares in strips of three, using 1/2" seams. Press seam allowances open. Pin strips together, matching corners. Sew, using 1/2" seams. Press seams open.

Wall Hanging Put several nine-patch blocks together for a wall hanging. Use 4 or 6 nine-patch blocks (or more).

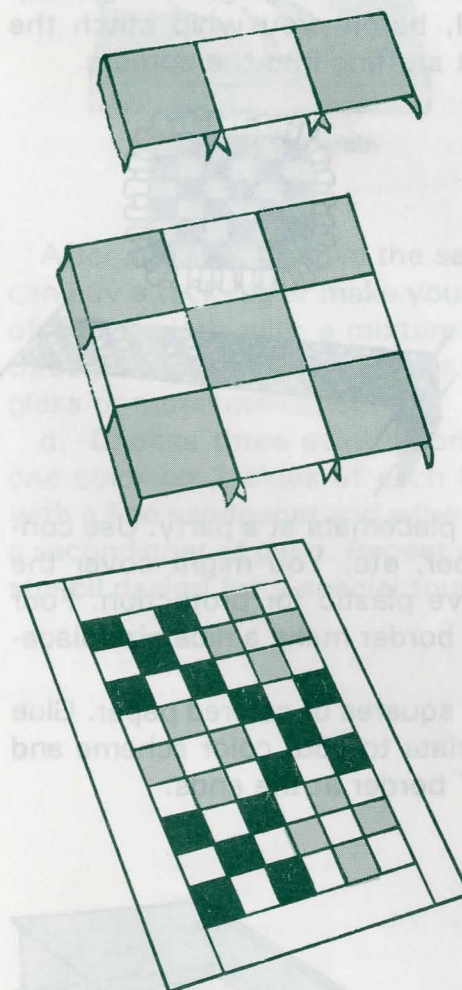
a. Decide where you will display your wall hanging. Plan an appropriate color scheme, size, and shape.

b. You can add 3 1/2" wide (or wider) strips of fabric to your hanging to increase the size.

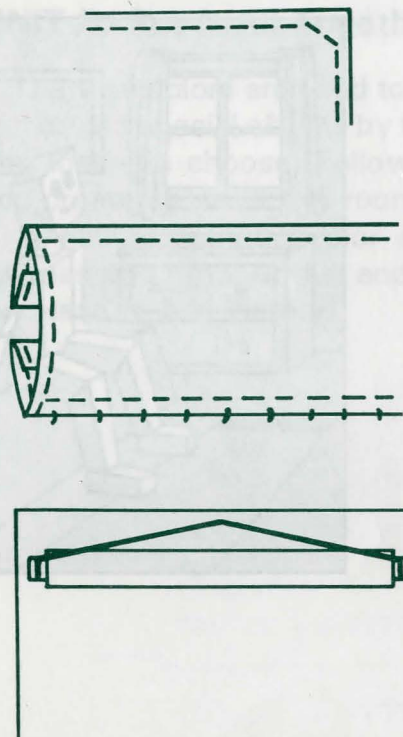
c. Sew blocks together. Use a 1/2" seam allowance, and press seams open.

d. If you plan to use them, cut extra fabric strips. For strips on the sides, plus top and bottom, be sure to allow extra length on one set of strips. Sew with 1/2" seams. Press seams open.

e. Cut a backing the same size as the assembled front of your wall hanging.



Pro Tip: Cut the backing slightly smaller than the front to help prevent the backing from rolling to the front and showing.



f. With right sides together, stitch front and back together using 1/2" seam allowances. Take one or two diagonal stitches at each corner. Leave a 6" opening. Trim corners, press seams open. Turn right side out. Press. Whip stitch opening closed.

g. Use a strip of backing fabric to make a casing for a dowel or rod at the top of your wall hanging. Cut the strip about 4" wide and the length equal to the width of your wall hanging, plus 1".

h. On each end of the strip, press under 1/4", then another 1/2". Stitch about 1/8" from edge. Press. Repeat with lengthwise edges.

i. Stitch casing near top of hanging on back side using a whip or blindstitch. Insert a dowel or rod, and hang.

Pillow Construct a pillow similar to the wall hanging. Combine 4 nine-patch blocks or use larger fabric squares in one block. Extra strips can also be used.

Follow the directions for the wall hanging, through step "f". Add polyester fiberfill, before you whip stitch the opening. Make sure you get stuffing into the corners.

Added touch: Ruffles or trims would make an attractive finish for pillow tops. Insert as front and backing are stitched together.

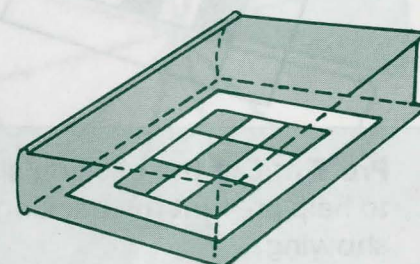
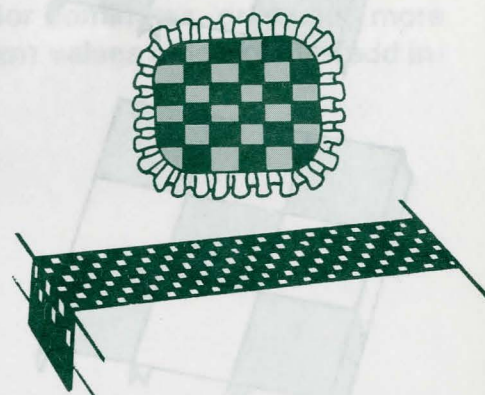
Use your creativity and nine-patch blocks to make other items such as placemats, table runners, tablecloths, etc. for your room or home.

Nine-Patch Paper Block:

Use paper quilt blocks for placemats at a party. Use construction, shelf or wall paper, etc. You might cover the mats with clear self-adhesive plastic for protection. Four blocks with a 1" to 3" end border make a nice size placemat.

For each block, cut 9 - 2" squares of colored paper. Glue blocks to a backing appropriate to your color scheme and design, allowing a 1" to 3" border at the ends.

Glue Tip: To adhere paper to paper, use rubber cement or a common white glue. Use rubber cement in a well-ventilated area. White glue can be diluted with water. Brush adhesive onto both paper surfaces evenly. Carefully smooth paper. Check for glue runs. Place a piece of foil or waxed paper over the paper and weight down until dry.

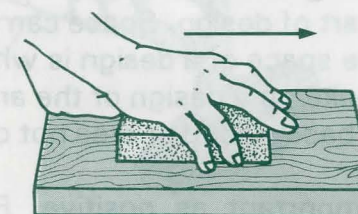


Nine-Patch Wood Blocks:

a. Cut square blocks of wood from a 2" x 2" board. A 2x2 board actually measures 1 1/2" x 1 1/2". Measure 1 1/2" for each block and mark where you will cut.

b. Clamp wood in place. Use a crosscut hand saw. Begin with short backward strokes to start a notch. Then use long strokes, with the saw at a 45-degree angle and both hands on the handle. A short saw may be easier to use.

c. Sand each block. Sand with the grain of the wood. Begin with medium grade sandpaper, then switch to a fine grade. The crosscut or end grain will need more sanding to get a smooth surface. For an even surface, use a sanding block.



sand with the grain

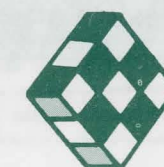
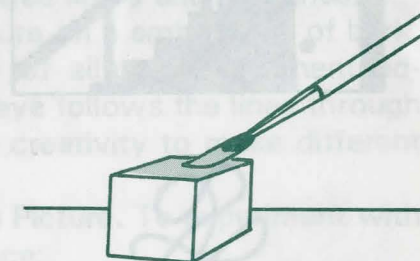
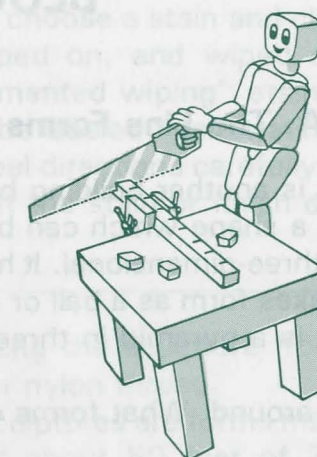
Pro Tip: Sandpapers are labeled according to grit size. Some labels indicate coarse, medium or fine grit. Others list numbers. Medium grit usually ranges from 60 to 100 and fine grit from 120 to 180. The larger the number, the finer the grit.

After sanding, remove the sawdust with a tack rag. You can buy a tack rag or make your own by dampening a piece of cheesecloth with a mixture of one part turpentine and three parts varnish. Store your tack rag in a tightly covered glass or metal container.

d. Choose three paint colors for a color scheme. Paint one color on 2 sides of each block. Let dry. Sand lightly with a fine sandpaper and wipe with a tack rag. Give blocks a second coat of paint. Repeat with other two colors. Add a stencil design for a special touch.

Pro Tip: Use a semi-gloss latex enamel paint. Read the label for directions and to check if a primer is recommended. A primer is used to prepare the wood surface for paint.

Arrange blocks in a pattern you like. Turn the blocks to change your design. Use as a decoration in your room. You could glue the blocks together and hang them on a wall, in a window, or as a mobile; or stack them as an accessory. Use your blocks to give a demonstration on color.

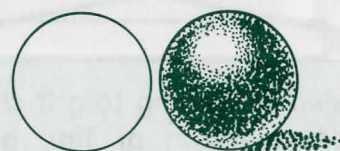


BLOCK II — It's All By Design

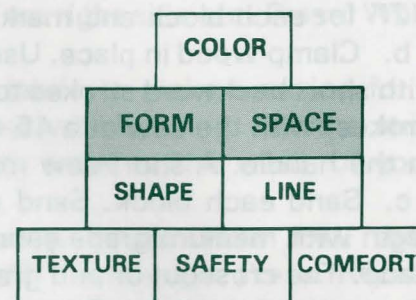
UNIT A. The Line Forms Here

Form is another building block of design. Form is a line making a shape which can be seen from 3 or more sides. This is three-dimensional. It has height, width and depth. A circle takes form as a ball or sphere in three-dimensions. A triangle is a pyramid in three-dimensions; a rectangle is a box.

Look around. What forms do you see?



Pro Tip: Use an all-purpose cement adhesive for two unlike materials, such as metal and wood. Because unlike materials expand and contract differently with temperature changes, the adhesive should remain slightly flexible after it dries.



Space is another design building block. We may hardly notice it, but it is an important part of design. Space can be **positive** or **negative**. The positive space of a design is what you first notice— shapes that make up a design or the area occupied. Negative space is the background or area not occupied.

Negative space is just as important as positive. For example, when a room looks cluttered, it is because not enough negative space is left!

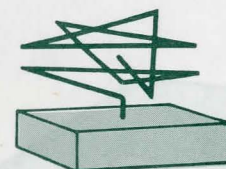
Here's What You Can Do:

Try these activities to learn about form and space. Which activities are on your planning sheet?

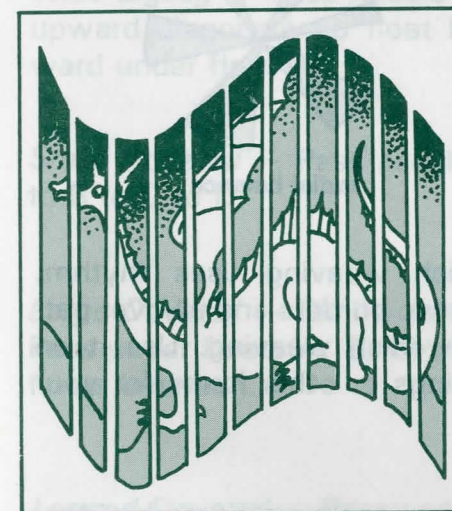
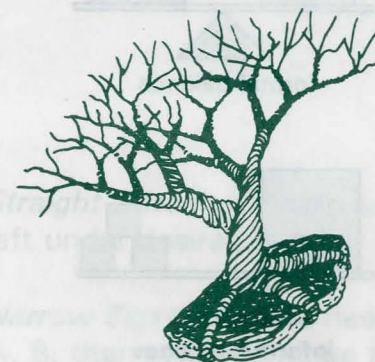
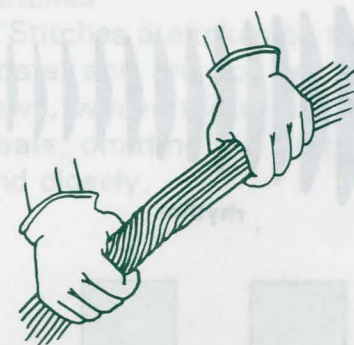
1. **Wire Sculpture** "Scribble in space" with wire. Create a wire sculpture by using line to create a form.

a. Use 18-gauge wire to create a three-dimensional design. Bend the wire so it suggests form or space.

b. Mount your wire on a piece of sanded wood large enough to support its weight. Attach one or both ends of the wire to the wood. Pound a nail, similar in size to the wire, part way into the wood at the point you want to attach the wire. Remove the nail using a claw hammer. Put the end of the wire in the hole; secure with glue.



c. You may choose to finish your block with a wood stain and clear finish, or paint.



Pro Tip: For your first project, choose a stain and clear finish that is brushed or wiped on, and wiped off. Stains may be labeled a "pigmented wiping" stain or "wiping" stain. Finishes may be labeled "penetrating" finish. Read and follow the label directions carefully so you will know how long to let the stain or finish dry, and how many coats to use.

d. Another idea is to hang the sculpture from the ceiling with a fishing line or nylon thread.

2. **Wire Trees.** Wire tree sculptures are forms made by using lines. You will need about 50 feet of 24- or 28-gauge wire. Use gloves to protect your hands.

a. Cut 60 to 75 pieces of wire approximately 8" long. Use wire cutters or pliers.

b. To form the trunk, twist all the wires together about 1/3 from the bottom.

c. Separate into five equal parts for the roots. Twist each part for about 1/2" to 1". Separate each root in half and twist.

d. Separate the portion above trunk into two main branches and twist each for about 1". Separate each branch into two more branches and twist. Continue separating branches into tree limbs and branches.

e. Set wire tree sculpture on a small piece of bark. Attach with small drops of all-purpose cement adhesive. Notice how your eye follows the lines through your sculpture. Use your creativity to make different tree sizes and forms.

3. **Designing With Space Picture.** To experiment with positive and negative space:

a. Cut a magazine picture into strips.

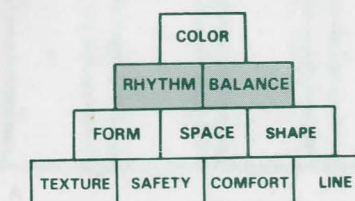
b. Lay the strips on construction paper. Use your knowledge of color schemes to choose the color. Leave space between the strips.

c. Shift the strips to different heights.

d. When you have a pleasing design, glue the strips to construction paper. How is negative space used in the design?

UNIT B. You've Got Rhythm! (And Balance, Too)

Rhythm is repetition. Like a drum repeats the rhythm in music, repeats of line, shape, form, color, texture, or space creates rhythm in design. Rhythm creates movement that the eye follows from one part of a design to the next.



Look around your home for examples of rhythm — plates around the table, keys on the piano, books on a shelf. Notice how your eyes move from one plate to another, or one key to the next. Look at your "Designing with Space Picture". Do you see how you created rhythm with positive and negative space?

Balance is placing objects on either side of a center point. Balance creates a feeling that things belong together and that both sides are of similar weight.

Formal Balance Everything on either side of a central line is similar. The items are equal distances from the center.

Informal Balance Balanced, but not equal on either side of a central line. Items may be placed at unequal distances from the center.

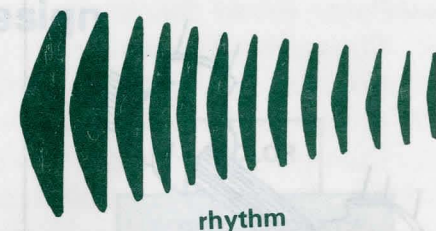
Radial Balance Balanced so that radiating lines begin from a central point.

Here's What You Can Do:

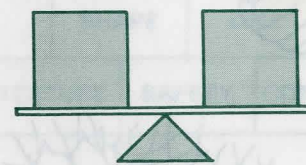
Which activities did you choose on your planning sheet to learn more about rhythm and balance?

1. **Centerpiece** Set the table for your family. Notice how rhythm makes the table attractive. Arrange a centerpiece using formal, informal, or radial balance.

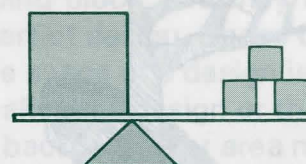
2. **Balance** Practice types of balance by arranging the accessories in your room, such as items on a dresser or pictures on wall. Sketch or take a picture of each arrangement for your next meeting. Which do you like best? Why?



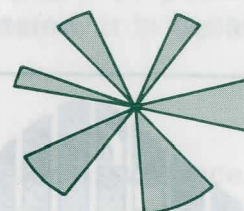
rhythm



formal balance



informal balance



radial balance

3. **Swedish Weaving** Swedish weaving uses rhythm, balance, line and color. Geometric borders and all-over patterns are ideally suited to Swedish weaving. Use it on towels, placemats, wall hangings or other items for your home.

Supplies

Swedish or "Huck" weaving is a type of embroidery worked on huckaback (huck) fabric. The fabric has raised threads or floats at regular spacing on both sides. One side has double threads as floats that run across the width from selvage to selvage. This is the side that is usually embroidered. The other side has single or double floats that run lengthwise of the fabric.

Huck fabric or toweling varies in quality. Floats are harder to see on lighter weight fabric. Mail order fabric or craft stores are possible sources. Aida cloth (14 count cross stitch fabric) can be substituted. Preshrink fabrics first.

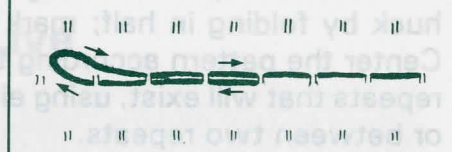
Six-strand embroidery floss and a tapestry needle in a size #20, 22, or 24 are generally used.



"huck" weaving

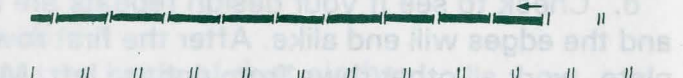
Stitches

Stitches are taken on top of the fabric, passing under the floats, and are not seen on the back. To begin and end rows, weave the thread end back through 4 or 5 pairs of floats, omitting the first float that holds your thread. Clip end closely.



Pro Tip: Each stitch should lie flat. Pulling thread too tightly results in puckers. Loose thread results in an uneven design. If thread becomes twisted, drop the needle and allow the thread to resume natural twist. Use beeswax on your thread to prevent tangles.

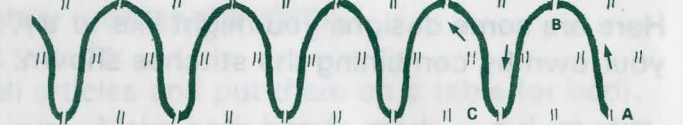
Straight Stitch — Pass needle from right to left under desired number of floats.



Narrow Zigzag — Pass needle under float at A, B, then at C. Continue to length desired.



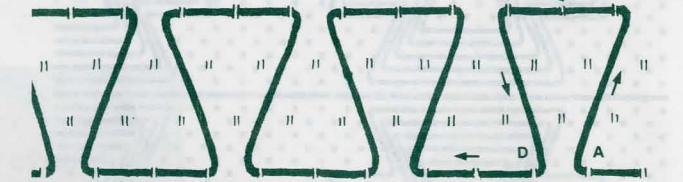
Wide Zigzag — Pass needle under float A, upward diagonally to float B, then downward under float C.



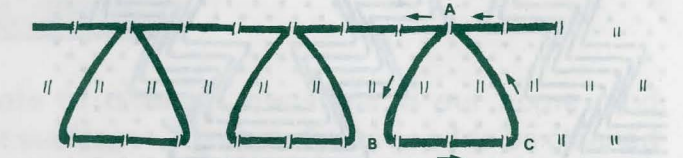
Small Dovetail — Pass needle from float A to B to C to D.



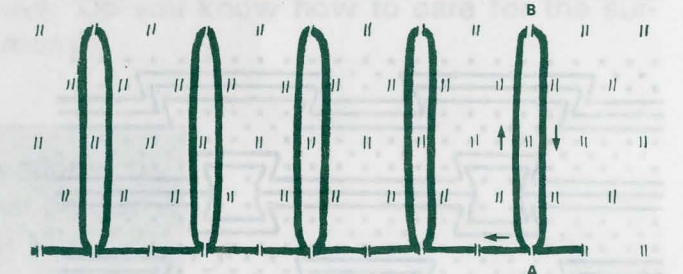
Large Dovetail — Similar to small dovetail. Pass under floats A, B, C, and D, skipping floats between.



Looped Dovetail — Pass needle under float A, right to left; under B left to right; float C left to right; back through A, right to left.



Loop Stitch — Pass needle from right to left through A, from left to right through B, then right to left again through A.



a. Plan the pattern design. Find the center of the huck by folding in half; mark center float with a pin. Center the pattern according to the number of pattern repeats that will exist, using either a center of a repeat, or between two repeats.

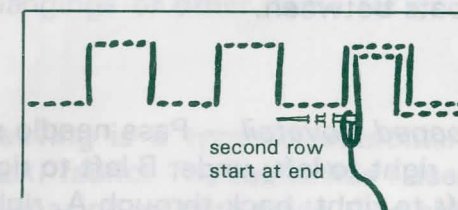
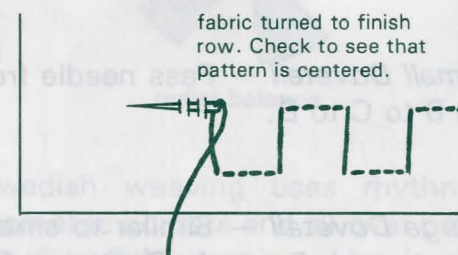
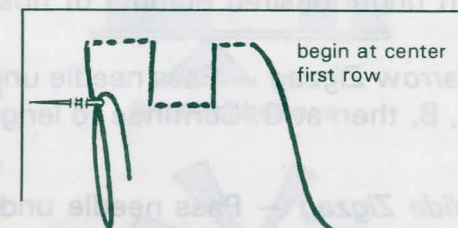
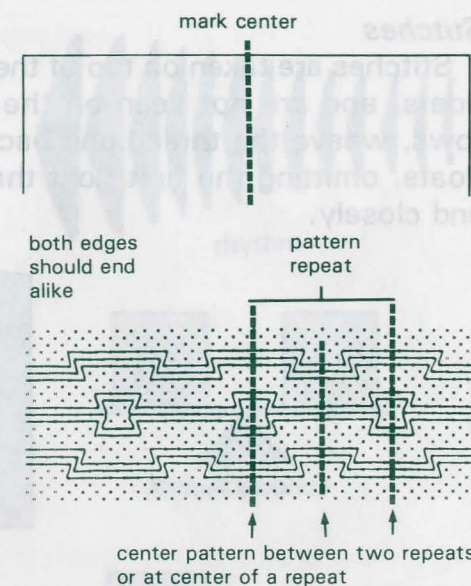
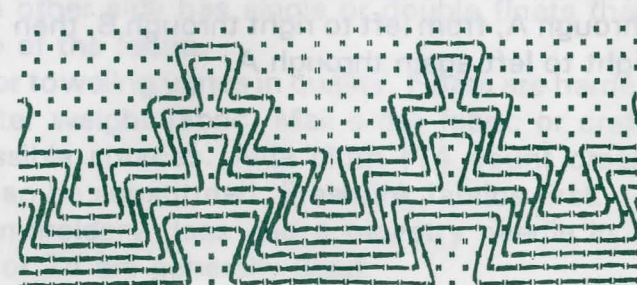
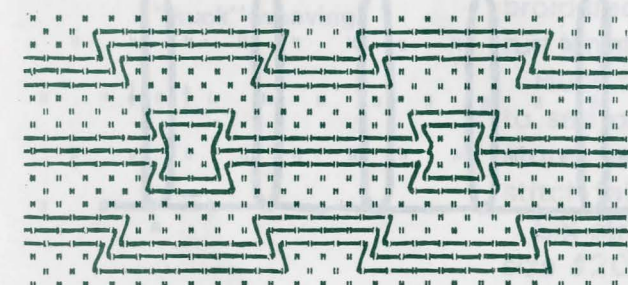
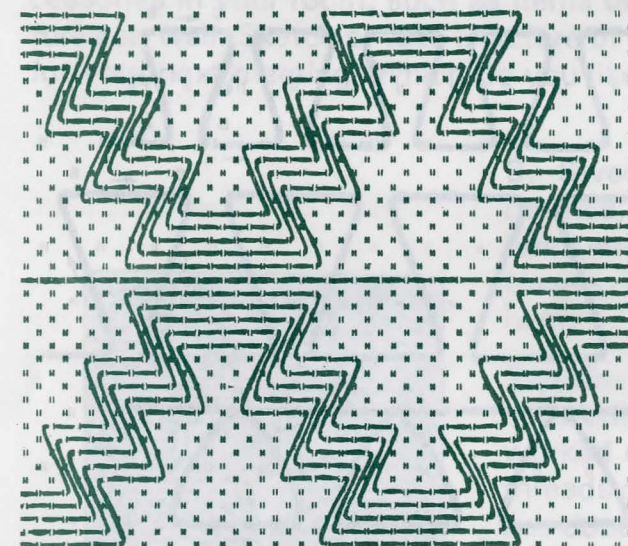
b. Cut thread 1 1/2 times the length of row for a straight row. A more complex pattern may need 2 1/2 to 3 times the length of the row. Use one length of thread per row to avoid joining.

c. Begin weaving the first row in the center of fabric, right to left, starting in the middle of your thread. Turn the work and go back to center. Finish the row, proceeding right to left, using the remainder of your thread. You will need to reverse direction of stitches on the first row when you turn the piece.

d. Check to see if your design repeats are centered and the edges will end alike. After the first row is complete, work all other rows from right to left. Most huck designs are worked from bottom row upward.

e. Press on wrong side when finished. Hem the item or finish edges to prevent raveling.

Here are some designs you might like to try, or create your own by combining the stitches shown.

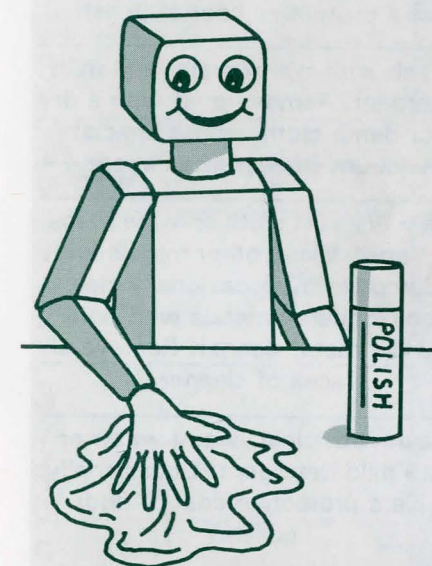
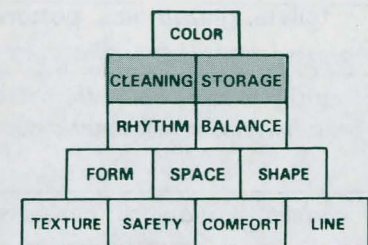


BLOCK III — Home - My Own Place To Live

UNIT A. It's Yours - So Take Good Care Of It!

Do You Remember - A NEAT AND TIDY HOME?

Everyone who lives in your home has a responsibility to keep the home neat and clean. We all think, work and relax better in a place that is clean, and free from clutter. What do you do as your share?



Dusting Know-How

You will need two kinds of dust cloths:

- **A dry, clean, lint-free cloth** for pictures, lamps, and small articles. Cheesecloth, knitted fabric, or terry cloth works well.

- **A treated dust cloth** for wood furniture. The polish should only lightly moisten the cloth.

Here's what you do:

- Dust small articles and put them on a table (or bed).
- Dust furniture. Make both hands work — a dust mitt on each hand cuts dusting time in half! Begin at the top of a piece of furniture and work down.
- Put everything back in place.
- Shake dust cloths outdoors.

Safety Tip: Store dust cloths that have oil or wax on them in a closed metal or glass container to prevent fire hazard.

There are lots of different materials in our home, and many different surfaces. These surfaces need to be cleaned in different ways. Do you know how to care for the surfaces in your room?

Pro Tip: Always read the label and follow directions on a cleaning product very carefully. Use a cleaner only on materials recommended by the label. NEVER MIX different kinds of cleaners.

Cleaning Suggestions

Items That Require Care	Type of Surface	Care
ranges, washers, sinks, bathtubs, toilets, glazed tiles, pottery	PORCELAIN OR PORCELAIN-GLAZED METALS	Wash with warm water and detergent. Avoid harsh abrasive cleaners.
refrigerators, freezers, metal cabinets, small appliances	BAKED OR SYNTHETIC ENAMEL	Wash with warm water and mild detergent. Occasionally give a protective coat of polish.
walls, woodwork, cabinets, furniture	PAINT, ENAMEL	Wash with clear, warm water, or use a mild detergent. Do not polish.
furniture, woodwork, paneling, picture frames	SEALED WOOD, VARNISH LACQUER	Dust with a soft cloth. Occasionally give a protective coat of polish.
furniture, upholstery, small appliances, wall coverings, cabinet tops	PLASTIC ARTICLES OR SURFACE COVERINGS	Wash with warm water and mild detergent. Remove dust with a dry or damp cloth, or use special vacuum cleaner attachment.
lamps, furniture, plumbing and electrical fixtures, hardware	METALS: CHROME, BRASS, COPPER, SILVER, STAINLESS STEEL	Use a dry soft cloth to wipe brass or copper. Clean other metals with a damp cloth. Occasionally clean non-lacquered metals with non-abrasive metal cleaner. Remove all traces of cleaner.
counter tops, floors	VINYL	Wash with clear, warm water or use a mild detergent. Occasionally give a protective coat of floor polish.
walls, lamp shades, pictures	PAPER	Dust with a soft, dry cloth.
mats, walls, baseboards	RUBBER OR SYNTHETIC RUBBER	Wash with warm water and mild detergent.
furniture	UPHOLSTERY FABRICS	Brush or use vacuum cleaner attachment to remove dust.
bathtubs, showers	FIBERGLASS	Wash with a mild, non-abrasive cleaner.

Here's What You Can Do:

These activities are about taking care of your home. Which activities did you choose on your planning sheet?

1. **Activity Chart** What can you do to help care for your special area in the home? Fill in the chart with stickers or colored check marks. Help a younger brother, sister or friend to make their own chart to help care for their part of the home or room.

Care of Your Special Area

Room or Area _____ Beginning date _____

List the jobs you plan to do. Mark off a square each time you complete a task.

DAILY

1														
2														
3														
4														
5														

WEEKLY

1														
2														
3														
4														
5														

OCCASIONALLY

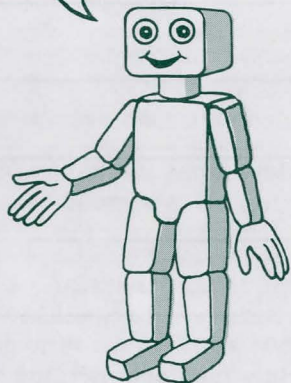
1														
2														
3														
4														
5														

2. **Share** Share your cleaning talents! Find someone in your neighborhood that might be handicapped, disabled, or unable to care for their home. Offer to help. Bring along a 4-H friend.

3. **Puzzle Fun** How many words about cleaning the home can you find in this puzzle? Circle each word.

D D A A G B L Z P Z A O
M A G X U J A D A A R H
L X V G F E Z R I C O H
C W A X U X P O L I S H
D G C Y R A A Z L E H A
Z U U Z N T V P A L I C
F X U D I R T N M T N X
G B M D T U A R P T E U
L V L V U G T K S O A P
K K V M R W Z A C Z E M
V V C L E A N E R I N L
G G L U L T T U U R Z K
M M O P U E Z A B U F F
N W T C B R U S H L Z D
G O H P D I O L A J X E

CAN YOU FIND
MORE THAN
15 WORDS?



UNIT B. Let’s Get Organized!

Have you ever been late for school because you couldn’t find a book or your shoes? Is your room cluttered? Maybe you could use more space. But chances are, you could organize and improve what you have.

Look around your room. What areas are problems?

	Area #1	Area #2	Area #3
What is stored there now?			
What needs to be stored there that doesn’t fit right now?			
What could be done: sort/toss/rearrange relocate items buy/make storage item other (be creative)			

Clean Out

One easy way to make more storage space is to get rid of things you no longer need or want.

Follow Keys To Organized Storage

- Store items near the place of first or last use.
- Place items where they are easy to get.
- Keep items that will be used together in the same place.
- Store things where they will be protected.

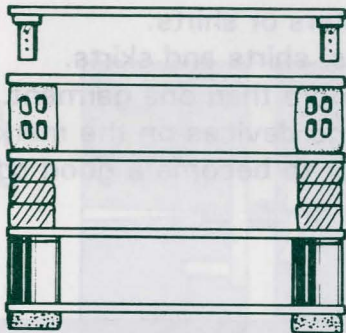
Here’s What You Can Do:

Choose some of the following suggestions to solve your organization or storage problems.

- Game Storage** Where is your favorite board game? What happened to the paper money with the Monopoly game? Or the Scrabble board? If you have problems like these, organize a special place for games.
 - Look around the house. Think about unusual storage places, such as the bottom section of a cabinet, or an old cupboard from a garage sale. Any storage place should be dry, clean, and free from insects and rodents. Choose a place low enough for all family members to reach.
 - Check each game to see that all parts are in the box. If the games are owned by different people, write their names on the boxes.
 - Repair boxes with transparent or masking tape if needed. Secure very full boxes with a rubber band.
 - Stack the games so that names show, or print in the name with big letters.



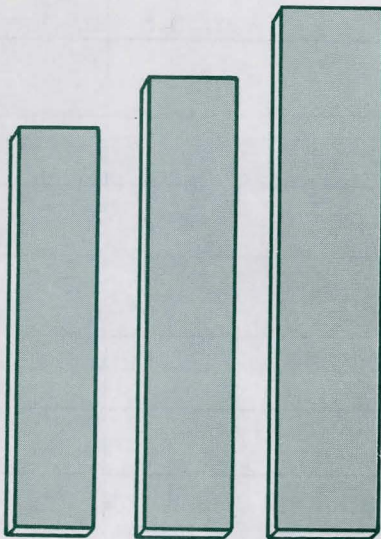
- Shelves** Make shelves to store your games, or to solve other storage problems in your room. Shelves can be made in many ways. Here are some ideas for shelf supports:
 - bricks
 - blocks of wood or short logs (may require finish)
 - big tin cans (may cover with adhesive paper; may add sand or gravel to give weight and stability)
 - concrete blocks
 - purchased brackets (shop around, comparing cost quality and appearance. You can use the “Consumer Comparison Chart” in #3.)



Shelving Spans Between Supports

If you use:	Maximum span
3/4" particle board	24"-28"
1x8, 1x10, 1x12 lumber	24"
3/4" plywood	36"
2x8, 2x10, 2x12 lumber	48"-56"

Choose regular lumber or pre-cut shelf boards that are sturdy. The size should be in proportion to the supports, the space where the shelves will be located, and what you want to store.



Pro Tip: Choose boards for shelves that are smooth, straight, and free of loose knots. Pine and hardwoods like oak, maple or walnut are good choices. You may also use particle board for shelves. However, particle board does not take finish well, so you may cover the board with adhesive shelf paper or vinyl.



To finish your boards:

- a. Sand very smooth. Remove dust with a tack rag.
- b. You can use a wood stain and clear finish on the boards or you may prefer paint. Think about what you have learned about color and design as you select a finish.
- c. Check your work: Are all the edges smooth? Is the finish smooth and applied evenly? Have you avoided "runs" in your paint, stain or clear finish?

3. Closet Storage Consider adding some items to your closet to make it more convenient. Here are some ideas:

- shoe rack or bag.
- a metal bracket or hook on which to hang clothes.
- clear plastic storage boxes to hold small items.
- a half shelf for folded sweaters or shirts.
- a second short rod for pants, shirts and skirts.
- a hanger designed to hold more than one garment.

There are many creative storage devices on the market today. Use this as an opportunity to become a good consumer.

Consumer Comparison Chart

Items Needed	Where Available (stores, catalogs, etc.)	Cost	Quality	Could You Make Anything Better for Less?

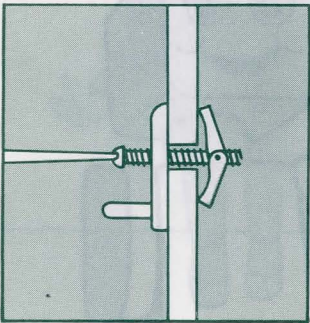
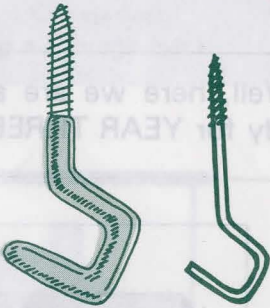
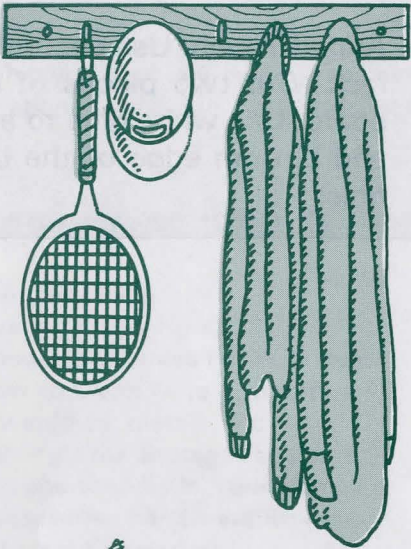
4. STORAGE RACK You can make a simple storage rack to hang coats, or to store sports equipment like fishing rods or tennis rackets.

Decide what you will store on your rack. Check hardware, home supply, and discount stores to see the types of hooks, clips or hangers available. Look for hardware sturdy enough to hold the items you will use, and that can screw into wood.

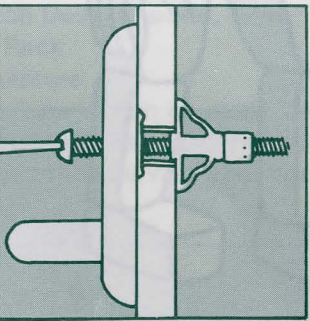
Where will you hang your storage rack? This will help you determine the size of the rack.

- Supplies:
- 1- 2" x 6" board;
 - hardware: hooks, clips or hangers
 - stain and clear finish, or paint
 - 2 or 3 toggle or molly bolts to hang the rack

- a. Sand the board.
- b. Locate the horizontal center of the board by measuring in two places and drawing a line across the center. Mark the location of hardware, evenly spaced along the center line. Hardware should be at least 2" to 3" from the end of the board.
- c. Use a nail to make a pilot hole for the screws to hold the hardware.



toggle bolt



molly bolt

Pro Tip: A pilot hole will help keep the wood from splitting, and make the screw easier to insert. A pilot hole should be slightly smaller in diameter than the screw.

- d. Ask an adult to help you drill holes for toggle or molly bolts to mount your storage rack. Locate the holes, evenly spaced, about 2" or 3" from the top of the board. If your rack will be longer than 3 to 4 feet, use 3 bolts.

Pro Tip: Toggle or molly bolts are used for fastening heavy objects to hollow walls. A toggle bolt has "wings" that spread out and press against the back side of the wall. A molly bolt has "legs" that are pushed out to grip the wall.

- e. Sand. Remove dust with a tack rag. Erase markings made for measurements.

Checklist and Evaluation for Home Environment

The following can be a guide for both you and the judge in evaluating your home environment activities.

1 = very good

2 = average

3 = needs improving

Quality of Design (40%)

There is effective use of design building blocks.

Design of the article is compatible with materials used.

Overall appearance of the project is pleasing and is an example of good design.

Design is appropriate for end use of item.

Quality of Workmanship (30%)

Construction is durable.

Construction is neat.

Suitable materials are used.

Item is functional for end use.

Creativity (30%)

Design idea is unique and original.

Combination is appealing and imaginative.